

1 What is claimed is:

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3 1. An apparatus for collecting samples for mass spectrometric
4 analysis, said apparatus comprising:

5 a tray for holding said sample material;

6 a robotic interface; and

7 a capillary having an inlet end and an outlet end;

8 wherein said outlet end of said capillary is positioned such
9 that ions produced from said samples are introduced into a mass
10 analyzer, and wherein said inlet end of said capillary is
11 positioned by said robotic interface for accepting ions of said
12 samples.

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14 2. An apparatus according to claim 1, wherein said capillary
15 comprises a channel having a helical structure.

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17 3. An apparatus according to claim 1, wherein said inlet ends
18 and said outlet ends comprise conductive end caps.

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20 4. An apparatus according to claim 1, wherein said ions are
21 transported from an ionization source into a first vacuum region
22 of a mass spectrometer.

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24 5. An apparatus according to claim 4, wherein said ionization
25 source is an API source.

6. An apparatus according to claim 4, wherein said ionization source is an ESI device.

7. An apparatus according to claim 4, wherein said ionization source is a pneumatic assisted electrospray source.

8. An apparatus according to claim 4, wherein said ionization source is an electron impact source.

9. An apparatus according to claim 4, wherein said ionization source is a chemical ionization source.

10. An apparatus according to claim 4, wherein said ionization source is a matrix assisted laser desorption ionization source.

11. An apparatus according to claim 4, wherein said ionization source is a plasma desorption source.

12. An apparatus according to claim 4, wherein said ionization source uses liquid chromatography.

13. An apparatus according to claim 1, wherein said apparatus is used to multiplex sample materials.

14. An apparatus for collecting samples for analysis in a mass

1 spectrometer, said apparatus comprising:

2 a tray for holding said sample material;

3 a robotic interface;

4 first and second capillary sections each having an
5 inlet end and an outlet end; and

6 a union having first and second openings;

7 wherein said outlet end of said first capillary section is
8 removably positioned within said first opening of said union, and
9 wherein said inlet of said second capillary section is removably
10 positioned within said second opening of said union.

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12 15. An apparatus according to claim 14, wherein said first
13 section comprises a channel having a helical structure.

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15 16. An apparatus according to claim 14, wherein said union
16 comprises means for removably securing said ends of said first
17 and second sections.

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19 17. An apparatus according to claim 14, wherein said union
20 comprises means for providing an airtight seal between said ends
21 of said first and second sections within said union.

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23 18. An apparatus according to claim 14, wherein said inlet ends
24 and said outlet ends comprise conductive end caps.

1 19. An apparatus according to claim 1, wherein said ions are
2 transported from an ionization source into a first vacuum region
3 of a mass spectrometer.
4

5 20. An apparatus according to claim 19, wherein said ionization
6 source is an API source.
7

8 21. An apparatus according to claim 19, wherein said ionization
9 source is an ESI device.
10

11 22. An apparatus according to claim 19, wherein said ionization
12 source is a pneumatic assisted electrospray source.
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14 23. An apparatus according to claim 19, wherein said ionization
15 source is an electron impact source.
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17 24. An apparatus according to claim 19, wherein said ionization
18 source is a chemical ionization source.
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20 25. An apparatus according to claim 19, wherein said ionization
21 source is a matrix assisted laser desorption ionization source.
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23 26. An apparatus according to claim 19, wherein said ionization
24 source is a plasma desorption source.
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1 27. An apparatus according to claim 19, wherein said ionization
2 source uses liquid chromatography.

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4 28. An apparatus according to claim 14, wherein said apparatus
5 is used to multiplex sample materials.